

**2026 Wando International Seaweed Symposium | Day 1 Schedule (Wednesday, May 6)**

12:00~13:00	Registration	
13:00~13:30	Opening Ceremony	
<b>Plenary I</b>		[Main Hall] Chair. Jang Kyun Kim
13:30~14:20	PL-01	Euchematoid seaweed cultivation and the urgent need for new approaches: A case study for the development of improved phyconomic practices <b>Alan T. Critchley</b>
14:20~14:30	Break	
<b>Special Session I</b> 해조류 양식 산업 현재와 미래 비전		[Room1] Chair. Han Gil Choi
14:30~14:50	SS-I-01	Defining Biomass Quality in Bloom-Forming Seaweeds: Lessons from Puerto Rico for Blue Economy Development <b>Loretta M. Roberson</b>
14:50~15:10	SS-I-02	Overview on the current state of European seaweed aquaculture <b>Helena Abreu</b> , Job Schipper
15:10~15:30	SS-I-03	Korea-US Joint Seaweed Biomass Research Center <b>Hwan Su Yoon</b>
15:30~15:50	SS-I-04	Land-based <i>Pyropia</i> aquaculture in Korea <b>Gwang Hoon Kim</b>
<b>Student Presentation (Oral) I</b>		[Room2] Chair. Jin Ho Kim
14:30~14:50	SO-I-01	A cryptic lineage in the <i>Pyropia dentata</i> complex (Bangiophyceae, Rhodophyta) and description of <i>Pyropia pseudodontata</i> sp. nov. based on integrative evidence <b>Namhyeok Kim</b> , Hocheol Kim, Ji-San Ha, Il-Ki Hwang, Hyung-Seop Kim, Kyosuke Niwa, Hwan Su Yoon
14:50~15:10	SO-I-02	Multicellularity evolution from simple to complex forms in the Ishigeales <b>Ha Yeon Hwang</b> , Hocheol Kim, Hiroshi Kawai, Hwan Su Yoon
15:10~15:30	SO-I-03	Effects of <i>Sargassum horneri</i> extract on heat tolerance after asexual reproduction in <i>Pyropia yezoensis</i> <b>Ye-Seul Lee</b> , Ji-Sook Park, Jang Kyun Kim
15:30~15:50	SO-I-04	Metabarcoding-Based Analysis of the Spatiotemporal Distribution of HAB Resting Cysts in Southern Coastal Sediments of Korea <b>Kang-hyun Park</b> , Soo-hwan Jhin, Joo-hwan Kim, Bum Soo Park
<b>Student Presentation (Oral) II</b>		[Room3] Chair. Ju-Hyoung Kim
14:30~14:50	SO-II-01	Hidden diversity in photosynthetic <i>Paulinella</i> : two novel brackish-water species reveal phylogenetic discordance <b>Sungpil Han</b> , Julia Van Etten, John A. Burns, Duckhyun Lhee, Hwan Su Yoon
14:50~15:10	SO-II-02	Morphological and phylogenetic analysis of <i>Pseudo-nitzschia</i> from the coastal waters of Jeju Island <b>Xu Wang</b> , Su-Min Kang, Sae-Hee Kim, Naeun Yun, Jin Ho Kim
15:10~15:30	SO-II-03	Revealing intraspecific differences in stress responses in the marine dinoflagellate <i>Prorocentrum cordatum</i> through transcriptomic analysis <b>Jeongah Shin</b> , Bum Soo Park, Kyung Ha Lee, Jiyeon Sung
15:30~15:50	SO-II-04	Effect of extraction methods on the thermal tolerance of <i>Sargassum horneri</i> extract: A comparison of autoclave and ultrasound-assisted extraction <b>Heeju Kim</b> , Ji Sook Park, Jang Kyun Kim
15:50~16:00	Break	
<b>Special Session II</b> 해조류 양식 산업의 이종교: 기후변화에 더해진 유해조류(HABs)의 부정적 영향		[Room1] Chair. Bum Soo Park
16:00~16:20	SS-II-01	Emerging Harmful Algal Bloom Issues in the California Current: Shifting Patterns and New Issues Driven by Climate? <b>Raphael M. Kudela</b>
16:20~16:40	SS-II-02	Core bacteria promote species-specific growth in the benthic toxic dinoflagellate <i>Prorocentrum lima</i> <b>Joo-Hwan Kim</b> , Eui Seong Kim, Jeongwon Hailey Kim, Byung Don Joo, Ro Young Park, Naeun Yun, Sae-Hee Kim, Yeseul Lee, Bum Soo Park
16:40~17:00	SS-II-03	Distinct microbial mechanisms of <i>Alteromonas</i> relieve nutrient stress of <i>Prorocentrum lima</i> : spatial partitioning of nitrogen regulation and strain specific phosphorus supply <b>Royoung Park</b>
17:00~17:20	SS-II-04	Host-Driven Community Differentiation in Microalgal Microbiomes: Keystone Role of the Roseobacter Clade within Alphaproteobacteria <b>Soo Hwan Jhin</b> , Kyung Ha Han, Joo-Hwan Kim, Jin Ho Kim, Hyeon Ho Shin, Bum Soo Park
<b>Special Session III</b> 해조류 바이오매스의 기후테크(climate tech,) 적용 가능성		[Room2] Chair. Yoon-E Choi
16:00~16:20	SS-III-01	Eco-Friendly Extraction of Brown Algae for Dual Application in Animal Cell and Microalgal Culture Systems <b>Yoon-E Choi</b>
16:20~16:40	SS-III-02	Biogas potential of brown macroalgae: Effects of macroalgal species and inoculum source <b>Chang Soo Lee</b>
16:40~17:00	SS-III-03	Global Phylogeography and Strain Performance of the Methane Mitigating Red Seaweed <i>Asparagopsis taxiformis</i> <b>Jennifer E. Smith</b>
<b>Student Presentation (Oral) III</b>		[Room3] Chair. Hyuk Je Lee
16:00~16:20	SO-III-01	Global phylogeography of Lineage-2 in <i>Asparagopsis taxiformis</i> reveals conserved low genetic diversity <b>Jongwon Lee</b> , Ga Hun Boo, Sang-Yun Han, Yongsung Lee, Kyeong Mi Kim, Il-ki Hwang, Hwan Su Yoon
16:20~16:40	SO-III-02	Effects of iron concentration on growth and physiological responses of <i>Pyropia yezoensis</i> <b>Jeong Hwa Hwang</b> , Ji Sook Park, Jang Kyun Kim
16:40~17:00	SO-III-03	Evaluating the effects of <i>Sargassum horneri</i> extract (SHE) on seedling establishment and growth of <i>Suaeda japonica</i> in a salt marsh restoration testbed <b>Ye Joon Seo</b> , Ji-Sook Park, Jang Kyun Kim
17:00~17:20	SO-III-04	Effect of High-wave Energy Environment near Offshore wind Farms(OWFs) on Growth and Functional Component Accumulation in <i>Pyropia yezoensis</i> <b>Young Jun Song</b> , Young Sik Kim

Poster Session		
17:20~18:20	PA-01	Early evolution and diversification of sexual reproduction in Compsopogonophyceae (Rhodophyta) <b>ShinYoung Kang</b> , Min Ho Seo, Hwan Su Yoon
	PA-02	Comparative analysis of glucose-induced color change in <i>Galdieria</i> <b>Jiwoo Kim</b> , Yongsung Lee, Hwan Su Yoon
	PA-03	Genetic characteristics among intraspecific <i>Desmodesmus</i> taxa (Scenedesmeceae) based on organelle genomes <b>YeongJun Jang</b> , Jee Hwan Kim, Chang Soo Lee, Seung Won Nam, JunMo Lee
	PA-04	Morphological characteristics and geographic distribution of <i>Meristotheca pilulaora</i> (Solieriaceae, Rhodophyta) from Ulleung-do (East Sea), Korea Lee Soon Jeong, <b>Lee Hak-Jeung</b> , Lee Eun-Young, Lee Sang Yong, Oak Jung Hyun, Lee Sang-Rae
	PA-05	Overview of seed production and distribution for developing an aquatic plant seed management system <b>Joo Do Hyeong</b> , Lee Hak-Jeung, Lee Sang Yong
	PA-06	Population structure of the diatom <i>Ditylum brightwellii</i> in Korean coastal waters <b>JiHeon Kang</b> , JunMo Lee
	PA-07	Mitogenomic variation in the invasive red alga <i>Gracilaria vermiculophylla</i> (Gracilariales, Rhodophyta) across the Northern Hemisphere <b>Ga Hun Boo</b> , Eun Chan Yang, Yeong Chae Yoo, Hyemin Lee, Dain Hong, Kathy Ann Miller
Poster Session		
17:20~18:20	PB-01	Hidden Hitchhikers: A New <i>Stylonema</i> Species from Ship Hull Fouling Reveals the Invasion Potential of Microscopic Red Algae Min Gui Jung, <b>Ju-Hyung Kim</b> , Hyung Woo Lee
	PB-02	The core bacterium <i>Marinobacter adhaerens</i> promotes trace metal acquisition in <i>Prorocentrum lima</i> under trace metal limitation <b>Jeongwon Hailey Kim</b> , Bum Soo Park
	PB-03	Bacterial Growth Enhancement of HAB-forming Dinoflagellate <i>Prorocentrum lima</i> under Nitrogen-Limited Conditions <b>Naeun Yun</b> , Bum Soo Park, Seung Min Yang, Jin Ho Kim
	PB-04	Species diversity of non-geniculate coralline algae in Korea revealed by <i>psbA</i> amplicon sequencing <b>Yeong Chae Yoo</b> , Hwa Jun Kang, Eun chan Yang
	PB-05	Assessment of ship hull-attached marine diatoms: Species composition and reattachment Taehee Kim, Buhari Lawan Muhammad, <b>Jang-Seu Ki</b>
	PB-06	Effects of nutrient ratios and thallus density on the growth of <i>Caulerpa okamurae</i> <b>Jeonghyeon Cheon</b> , hangil Choi, sooyeon Han, jisu Li Lim
	PB-07	Dynamics of genomic traits in bacterial communities across phytoplankton bloom systems <b>Royoung Park</b>
	PB-08	Structural Analysis of Climate and Oceanographic Factors Affecting Variation in Laver Production in the Haenam Coastal Area <b>In Ho Kim</b> , Jin Sung Kim
Poster Session		
17:20~18:20	PC-01	Life cycle-based artificial seed production and seeding in <i>Capsosiphon fulvescens</i> <b>Ji Woong Lee</b> , Seung Oh Kim, Hyun Il Yoo, Eun Kyoung Hwang, Jae Kwon Jo
	PC-02	Iron speciation modulates growth, physiological, and stress responses in <i>Pyropia yezoensis</i> <b>Jeong Hwa Hwang</b> , Seo Yeon Yim, Ji-Sook Park, Jang K. Kim, Jang Kyun Kim
	PC-03	Inducing symptoms of ice-ice disease via nitrogen limitation clarifies disease drivers in <i>Kappaphycus alvarezii</i> <b>Min Kim</b> , Soo Yeon Kim, Gwang Hoon Kim
	PC-04	Effect of application timing of <i>Sargassum horneri</i> extract (SHE) on the growth of <i>Pyropia yezoensis</i> <b>Ye-Seul Lee</b> , Gyeong Mo Kim, Ji-Sook Park, Jang Kyun Kim
	PC-05	Growth and pigment composition of 92 freshwater green algae (Scenedesmeceae) and their tolerance to salinity stress <b>YeongJun Jang</b> , SeoYeon Baek, Chang Soo Lee, Seung Won Nam, JunMo Lee
	PC-06	Establishment of a protoplast-based functional genomics platform in <i>Pyropia yezoensis</i> <b>Soo Yeon Kim</b> , Gwang Hoon Kim
	PC-07	Induction of heat tolerance of <i>Undaria pinnatifida</i> sporophyte through sex-specific pre-treatment of <i>Sargassum horneri</i> extract (SHE) on gametophyte <b>Gia Tran Tran</b> , Jang Kyun Kim
	PC-08	Exploring nutrient supplements for improving the growth and photosynthesis of <i>Asparagopsis taxiformis</i> gametophyte <b>Jae Woo Jung</b> , Min Jae Kim, Jang Kyun Kim
	PC-09	Characterization of RWP-RK proteins during fertilization in the red alga <i>Bostrychia moritzian</i> <b>Eunyoung Shim</b> , Sohme Yoon, Gwang Hoon Kim
Poster Session		
17:20~18:20	PD-01	Investigating Microbial Synergism in Oil-Induced Algal Blooms: A CRISPR-Cas9 Approach to the 'Shield & Feed' Hypothesis <b>Byung Don Joo</b> , Bum Soo Park
	PD-02	Cascade Biorefinery of Korean Brown Algae for Functional Extract Production and Application in <i>Euglena gracilis</i> Cultivation <b>yu-seok Kim</b> , sang-il Han, yoon-E Choi
	PD-03	Effects of fine-bubble on germination and early growth of salt marsh plants and its potential application in seaweed cultivation <b>Ye Joon Seo</b> , Se I Choi, Jang Kyun Kim
	PD-04	<i>shige okamurae</i> Extract and Its Constituent Ishophloroglucin A Attenuated In Vitro and In Vivo High Glucose-Induced Angiogenesis <b>Da-eun Kim</b> , K.H.N Fernando, Hye-Won Yang, Bomi Ryu, You-jin Jeon
	PD-05	Comparative Analysis of Bioactivities and Metabolites of Wild and Cultivated <i>Ecklonia cava</i> <b>Seungwoo Han</b> , Sang-Woon Lee, Jimin Hyun, Jun-Geon Je, You-Jin Jeon
	PD-06	Structure-Activity relationship of fucoidan derived from <i>Sargassum fusiforme</i> based on glycan composition and anti-inflammatory activity <b>MinSoo Kim</b> , Jun-Geon Je, Chan-Young Kim, You-Jin Jeon
	PD-07	Suppression of Melanogenesis by <i>Sargassum thunbergii</i> Fucoidan through Antioxidant-Mediated Mechanisms <i>in vitro</i> and <i>in vivo</i> <b>Fengqi Yang</b> , Dandan Xiao, Xueyu Wang, You-Jin Jeon
	PD-08	Toxic and non-toxic marine dinoflagellate <i>Gymnodinium</i> species: transcriptomic Insights into saxitoxin biosynthesis and the evolutionary divergence of gene clusters Han-Sol Kim, Buhari Lawan Muhammad, Taehee Kim, Heej Jin Kamg, Su-Hwa Lee, Jin-Joo Hong, <b>Jang-Seu Ki</b>
	PD-09	Mass Cultivation of Free-Living Conchocelis Using a Biosecure Seaweed Bioreactor through International Collaboration <b>Hyeonbae Lee</b> , Jang Kyun Kim, Byeong-Mo Gim
	PD-10	Curative effects of freshwater algae, <i>Prasiola japonica</i> , Ethanol Extract in a Menopause Model Yein Heo, <b>Euijin Jung</b> , Sang hee Park, Sun moo Rhee, Ha jin Noh, Natasha Christabella Sutopo, Byong Chul Yoo, Spandana Rajendra Kopali, Dong sam Kim, Yeo Jin Jung, Jae Youl Cho
	PD-11	Application of Macroalgae in Marine Aquaponics(MAP): Species Screening and Interaction Study <b>Taejun Gim</b> , Gi-Beom Gim, Junseong Choi, Nam-Hyun Kim, Jung-Suk Lee, Chang-Keun Lee, Young-Seok Han
	PD-12	Characteristics of <i>Pyropia yezoensis</i> strains induced by low-level gamma ray irradiation <b>Gi-Beom Gim</b> , Chan Song Kim, Il Ki Hwang, Jae Kwon Cho, Jin Suk Heo

**2026 Wando International Seaweed Symposium | Day 2 Schedule (Thursday, May 7)**

<b>Plenary II</b>		[Main Hall] Chair. Hwan Su Yoon
08:30~09:20	SS-II-01	How Does the IPCC Determine New Sinks? <b>Seungdo KIM</b>
09:20~09:30	Break	
<b>Young Scientist Award Competition</b>		[Main Hall] Chair. GaHun Boo
09:30~09:50	AO-01	Developing the cultivation technology of <i>Asparagopsis taxiformis</i> , potential for methane reduction in livestock <b>Jae Woo Jung</b> , Jang Kyun Kim
09:50~10:10	AO-02	Ambivalent effects of mass cultivation of biodiesel producible green alga <i>Tetraselmis striata</i> on a microbial ecosystem: Evidence from mesocosm experiments <b>Sae-Hee Kim</b> , Bum Soo Park, Jin Ho Kim
<b>Special Session IV. 해조류양식의 블루카본 인증</b>		[Room1] Chair. Sang Rul Park
10:10~10:30	SS-IV-01	An Integrated eDNA and Stable Isotope Approach for Assessing Macroalgal Contributions to Blue Carbon in Marine Ecosystems on Jindo Island, Korea <b>Hyuk Je Lee</b>
10:30~10:50	SS-IV-02	Estimation of organic carbon in sediments beneath large-scale seaweed farms off the southwestern coast of Korea <b>Seung Hyeon Kim</b> , Jinwoo Ku, Sang Rul Park
10:50~11:10	SS-IV-03	Organic Carbon Dynamics in the Jindo-Haenam Seaweed Aquaculture Area <b>Jonghyuck Lee</b> , Jihyun Park, Jihoon Kim, Shinyoung Yun, Tiffany Ashley UY, Hyeong Kyu Kwon, Guebuem Kim
<b>Special Session V. 기후변화 대응 해조류 양식종 및 품종개발</b>		[Room2] Chair. Eun Kyoung Hwang
10:10~10:30	SS-V-01	Breeding climate-resilient seaweed cultivars in Korea: Challenges and opportunities <b>Eun Kyoung Hwang</b>
10:30~10:50	SS-V-02	Novel triploid breeding method and cultivation trial of triploid lines of <i>Saccharina japonica</i> and <i>Undaria pinnatifida</i> <b>Tifeng Shan</b> , Yuqian Li, Ganlin Liang
10:50~11:10	SS-V-03	Climate proofing the euchematoids: biobanking and stress priming the genetic resources as adaptive strategy to sustain the carrageenan seaweed industry <b>Michael Roleda</b>
11:10~11:20	Break	
<b>Contributed Paper I</b>		[Room1] Chair. Young-Seok Han
11:20~11:40	CO-I-01	Connecting the Ocean through Seaweed: Establishment of the Korean Peninsula Seaweed Forum <b>Hyung Geun Kim</b> , Jae Joong Jin, Soo A Kim, Chan Kil Chun, Tae Heon Jang
11:40~12:00	CO-I-02	A Forecasting Index for Discoloration in <i>Pyropia</i> Aquaculture Based on Tissue C:N Ratio and Nitrogen Availability <b>Ju-Hyoung Kim</b> , Min Gui Jung, Eun Ju Kang, Mi-Jung Han, Dong Kyu Lim, Cheonhee Lee, Min-Sun Lee
12:00~12:20	CO-I-03	A Methodological Roadmap for Quantifying Carbon Uptake and CO <sub>2</sub> Removal in Seaweed Ecosystems <b>Ju-Hyoung Kim</b> , Jin Woo Kang, Im-Ho Choi, Ho-Sung Yoon
<b>Contributed Paper II</b>		[Room2] Chair. Joo-hwan Kim
11:20~11:40	CO-II-01	Environmental Drivers of Seasonal Biomass Variation in <i>Grateloupia divaricata</i> along the Mid-Eastern Coast of Korea <b>Pyo Il Han</b> , Beom-Sik Kim, Jong Won Park, Chung Il Lee
11:40~12:00	CO-II-02	Development of a high-sensitivity qPCR assay for the detection of harmful <i>Dinophysis</i> spp. using synthetic oligonucleotides <b>Su Min Kang</b> , Xu Wang, Sae-Hee Kim, Naeun Yun, Seung Min Yang, Tae Gyu Park, Suk Hyun Youn, Jin Ho Kim
12:00~12:20	CO-II-03	Comparative Genomic Analysis of Orthotropic Early-Diverging Red Algae Hildenbrandiophycidae to Elucidate Freshwater Adaptation and Fungal Symbiosis <b>Sang-Yun Han</b> , Christophe Vieira, Chung Hyun Cho, Hochoel Kim, Wendy A. Nelson, Myung Sook Kim, Hwan Su Yoon
12:20~12:50	Closing Ceremony	